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Supplemental Material

A Case–Control Study of Maternal Polybrominated Diphenyl Ether (PBDE) Exposure and Cryptorchidism in Canadian Populations

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Table S1. Intercorrelation between PBDE congener concentrations in maternal hair (N = 295).

	BDE-28	BDE-47	BDE-99	BDE-100	BDE-153	BDE-154	BDE-209
BDE-28	1						
BDE-47	0.37***	1					
BDE-99	0.39***	0.66***	1				
BDE-100	0.36***	0.38***	0.37***	1			
BDE-153	0.59***	0.64***	0.66***	0.57***	1		
BDE-154	0.63***	0.50***	0.49***	0.53***	0.71***	1	
BDE-209	0.16**	0.16**	0.14*	0.27***	0.18**	0.16**	1

*p < 0.05, **p < 0.01, ***p < 0.001

Table S2. Detection frequencies, geometric means and percentiles of child hair PBDE concentrations among cases (N = 57).

PBDEs	LOD ^a , LOQ ^b	Detect. freq. ^c	Quant. freq. ^d	GM ^e	95% CI ^f	Min.	25 th percentile	Median	75 th percentile	Max.
	(pg/mg)	(%)	(%)	(pg/mg)	(pg/mg)	(pg/mg)	(pg/mg)	(pg/mg)	(pg/mg)	(pg/mg)
ΣPBDEs ^g				67.95	54.06, 85.40	8.13	40.91	67.22	107.44	553.67
BDE-28	1.00, 4.00	66.67	36.84	2.34	1.77, 3.09	<LOD	<LOD	2.57	6.42	14.27
BDE-47	3.00, 8.00	80.70	75.44	11.68	8.61, 15.84	<LOD	8.18	11.68	21.71	189.93
BDE-99	2.00, 7.00	85.96	64.91	9.76	7.04, 13.54	<LOD	3.91	9.98	19.14	235.99
BDE-100	1.00, 4.00	89.47	82.46	9.10	6.90, 12.79	<LOD	5.34	12.26	20.23	58.57
BDE-153	2.00, 5.00	73.68	35.09	4.06	3.15, 5.22	<LOD	<LOD	3.57	8.30	58.58
BDE-154	1.00, 4.00	91.23	52.63	4.23	3.18, 5.61	<LOD	1.89	4.05	9.38	38.62
BDE-183	4.00, 12.00	38.60	10.53	4.39	3.68, 5.23	<LOD	<LOD	<LOD	6.54	27.10
BDE-209	1.00, 3.00	85.96	80.70	9.41	6.63, 13.35	<LOD	5.91	12.59	21.79	155.27

^aLimit of detection

^bLimit of quantification

^cDetection frequency

^dQuantification frequency

^eGeometric mean

^f95% confidence interval

^gSummed congeners include BDE-28, BDE-47, BDE-99, BDE-100, BDE-153, BDE-154 and BDE-209.

Table S3. Detection frequencies, geometric means and percentiles of child hair PBDE concentrations among controls (N = 50).

PBDEs	LOD ^a , LOQ ^b (pg/mg)	Detect. freq. ^c (%)	Quant. freq. ^d (%)	GM ^e (pg/mg)	95% CI ^f (pg/mg)	Min. (pg/mg)	25 th percentile (pg/mg)	Median (pg/mg)	75 th percentile (pg/mg)	Max. (pg/mg)
ΣPBDEs ^g				65.37	52.89, 80.80	13.63	39.89	58.80	115.23	513.01
BDE-28	1.00, 4.00	56.00	34.00	1.85	1.41, 2.43	<LOD	<LOD	2.17	4.90	8.59
BDE-47	3.00, 8.00	92.00	60.00	11.08	8.42, 14.57	<LOD	6.10	10.22	19.15	149.30
BDE-99	2.00, 7.00	80.00	60.00	6.75	4.94, 9.21	<LOD	2.91	8.59	11.47	200.71
BDE-100	1.00, 4.00	96.00	62.00	5.76	4.55, 7.29	<LOD	3.51	5.57	10.11	56.50
BDE-153	2.00, 5.00	76.00	30.00	3.58	2.91, 4.42	<LOD	2.00	3.99	5.46	47.43
BDE-154	1.00, 4.00	88.00	40.00	2.83	2.24, 3.57	<LOD	1.36	3.19	5.17	14.89
BDE-183	4.00, 12.00	44.00	0.00	4.03	3.55, 4.57	<LOD	<LOD	<LOD	5.71	10.30
BDE-209	1.00, 3.00	78.00	74.00	9.18	5.91, 16.45	<LOD	2.80	10.86	29.14	291.19

^aLimit of detection

^bLimit of quantification

^cDetection frequency

^dQuantification frequency

^eGeometric mean

^f95% confidence interval

^gSummed congeners include BDE-28, BDE-47, BDE-99, BDE-100, BDE-153, BDE-154 and BDE-209.

Table S4. Correlation between PBDE concentrations in maternal and child hair among cases (N = 57) and controls (N = 50).

PBDEs	Cases	Controls
ΣPBDEs ^a	0.41***	0.16
BDE-28	0.38**	0.64***
BDE-47	0.34**	0.49***
BDE-99	0.48***	0.53***
BDE-100	0.71***	0.54***
BDE-153	0.50***	0.53***
BDE-154	0.53***	0.56***
BDE-209	0.44***	0.46***

^aSummed congeners include BDE-28, BDE-47, BDE-99, BDE-100, BDE-153, BDE-154, and BDE-209.

p < 0.01, *p < 0.001

Table S5. Geometric means and standard deviations of PBDE congener concentrations in maternal hair by number of affected testes and testis location.

	No.	(%)	\sum PBDEs ^a		BDE-28		BDE-47		BDE-99		BDE-100		BDE-153		BDE-154		BDE-209	
			GM ^b	(GSD) ^c	GM	(GSD)	GM	(GSD)	GM	(GSD)	GM	(GSD)	GM	(GSD)	GM	(GSD)	GM	(GSD)
Number of Affected Testicles																		
0 - Control	158	(56)	45.3	(2.0)	2.4	(2.5)	9.0	(2.3)	5.1	(2.4)	4.1	(2.4)	3.1	(2.1)	3.3	(3.0)	7.1	(4.1)
1	108	(38)	50.6	(1.9)	2.2	(2.3)	8.9	(2.4)	7.6	(2.4)	6.1	(2.8)	3.7	(2.3)	4.0	(2.5)	8.9	(2.8)
2	17	(6)	49.6	(2.0)	2.5	(3.0)	9.2	(2.3)	6.1	(2.9)	4.8	(3.5)	3.3	(2.1)	4.0	(2.9)	10.7	(2.7)
Testicular Location																		
Control	158	(57)	45.3	(2.0)	2.4	(2.5)	9.0	(2.3)	5.1	(2.4)	4.1	(2.4)	3.1	(2.1)	3.3	(3.0)	7.1	(4.1)
Ectopic	7	(3)	60.1	(1.9)	2.0	(2.3)	10.8	(2.9)	9.7	(3.0)	8.2	(2.2)	3.5	(2.2)	3.4	(2.5)	10.9	(3.1)
Inguinal	91	(33)	51.4	(1.9)	2.3	(2.5)	9.2	(2.3)	7.7	(2.4)	5.9	(2.7)	4.0	(2.3)	4.4	(2.6)	8.9	(2.8)
Intra-abdominal	19	(7)	51.5	(2.0)	2.0	(2.5)	9.2	(2.8)	7.4	(2.5)	5.6	(3.5)	3.0	(2.2)	3.8	(2.3)	11.5	(2.6)

^aSummed congeners include BDE-28, BDE-47, BDE-99, BDE-100, BDE-153, BDE-154 and BDE-209.

^bGeometric Mean

^cGeometric Standard Deviation